

OWNERS INSTRUCTION MANUAL

SPECIAL-EFFECTS GENERATOR SEG-1



SONY Model SEG-1 is a special-effects generator with facilities for switching, fading, superimposing, and wiping two video signals. Inputs accept up to four SONY video cameras and provisions are included to monitor the output of each camera. One channel may be inverted, if desired, to yield a negative picture. In addition, an internal sync generator supplies 2:1 interlace sync, or sync may be supplied from an external source.

The SEG-1 may be used with any SONY video camera, monitor, and/or Videocorder. Dramatic effects can be produced that will add a professional appearance to video recordings.

Read this instruction manual carefully and save it for future reference.

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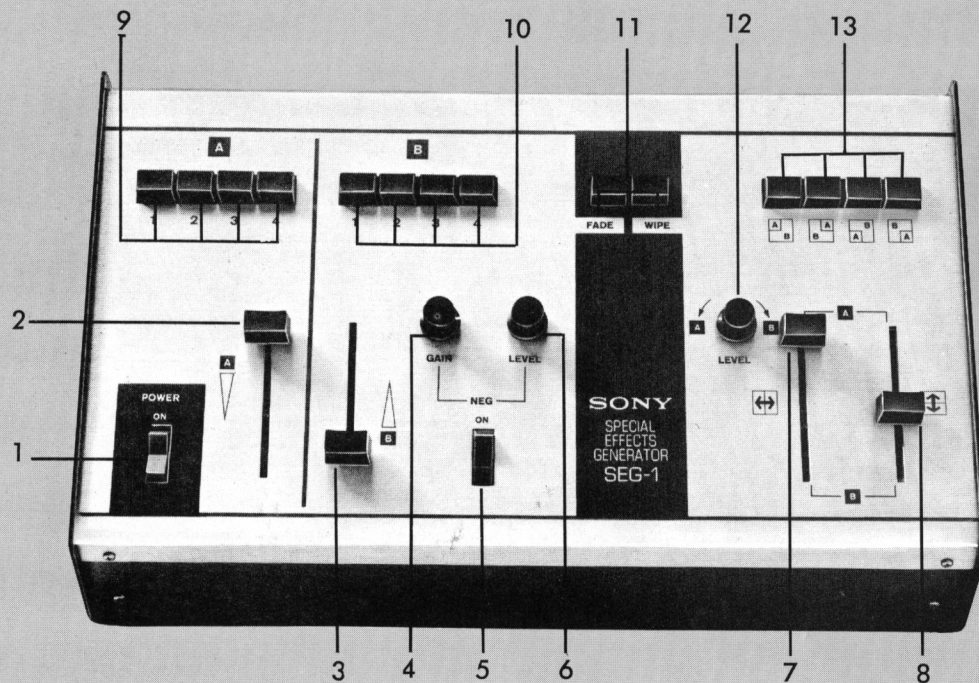


Fig. 1. Front Panel Facilities

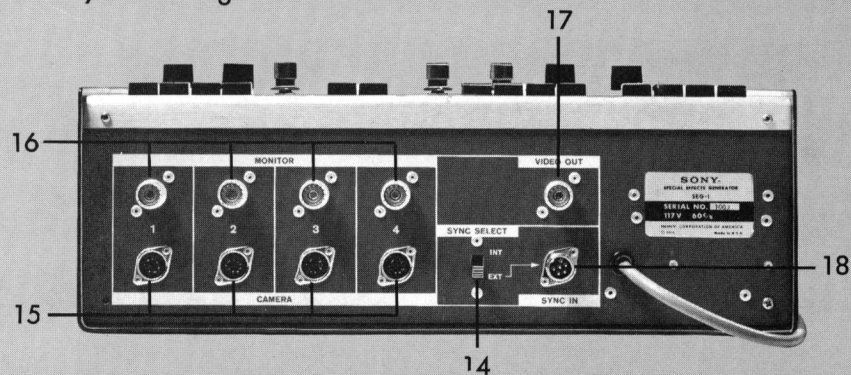


Fig. 2. Rear Panel Facilities

FRONT PANEL FACILITIES

(Fig. 1)

1. POWER Switch—turns the SEG-1 on or off.
2. Channel A Level Control (Δ)—controls the level of the signal applied to the A channel; maximum level in the upper position, minimum level in the lower position.
3. Channel B Level Control (∇)—controls the level of the signal applied to the B-channel; maximum level in the lower position, minimum level in the upper position.
4. NEG GAIN Control—adjusts contrast of the negative picture.
5. Negative Output Switch (NEG ON)—inverts the output of the B-channel to provide a negative picture.
6. NEG LEVEL Control—adjusts brightness of the negative picture.
7. Horizontal Wiping Control ($\left[\begin{smallmatrix} \leftarrow \\ \rightarrow \end{smallmatrix} \right]$)—positions the vertical dividing line between A- and B-channels (vertically-split screen).
8. Vertical Wiping Control ($\left[\begin{smallmatrix} \uparrow \\ \downarrow \end{smallmatrix} \right]$)—positions the horizontal dividing line between A- and B-channels (horizontally-split screen).
9. Channel A Selectors (A 1, 2, 3, 4)—select the input to the A-channel.
10. Channel B Selectors (B 1, 2, 3, 4)—select the input to the B-channel.

11. FADE-WIPE Selector—selects fading (dissolving) or wiping (split-screen, corner insert) operation. The FADE button is used in conjunction with the channel A and B Level Controls. The WIPE button is used with the channel A and B Wiping Controls.
12. LEVEL Control—balances the output level of the A- and B-channels.
13. Insert Selectors—select the corner into which the A-channel material is placed within the B-channel field as indicated by the figure beneath each button.

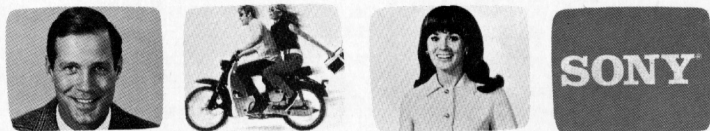
REAR PANEL FACILITIES

(Fig. 2)

14. SYNC SELECT Switch—selects either internal (INT) or external (EXT) sync. When this switch is set to EXT, external sync should be fed into the SYNC IN receptacle 18.
15. Video Input Receptacles (CAMERA 1, 2, 3, 4)—accept the output of any SONY video camera.
16. Monitor Output Receptacles (MONITOR 1, 2, 3, 4)—supply output signals to video monitors from the corresponding camera inputs.
17. VIDEO OUT Receptacle—supplies video output to an external line monitor or video tape recorder.
18. SYNC IN Receptacle—accepts external sync signals from a video tape recorder or 2:1 interlace EIA sync generator.

FEATURES

(Refer to Pages 11 and 12)



Switching

Any two of up to four inputs may be selected with the use of the Channel A and B Selectors and Channel A and B Level Controls.



Fading

Any two of the inputs may be dissolved, from either source to the other or to black, with the use of the Channel A and B Level Controls.



Superimposing

Any two inputs may be superimposed upon each other.



Horizontal Wipes

Any two sources may be displayed side-by-side (horizontally-split screen).

FEATURES Continued



Vertical Wipes

Any two sources may be displayed one above the other (vertically-split screen).



Corner Inserts

Any source may be displayed in any corner of any other source.



Positive or Negative Picture

The SEG-1 will supply normal positive picture or negative picture (Channel B only).

Monitoring

Complete monitoring facilities are available.

PRECAUTIONS

1. Cameras to be connected should be four or less SONY CVC-2000, CVC-2100, DVC-2400/CMA-1, or DXC-2000A. All four cameras should be of the same model.
2. Video Input 1 must always be connected with composite video signals, while either composite or non-composite video is acceptable at inputs 2, 3, and 4.
3. The monitors connected to the MONITOR receptacles must be unterminated and their connecting cables should be no longer than 10 feet.
4. When recording with a CV-2100 or CV-2200 Video-corder, set the AGC-MANU switch on the right side of the cabinet to the MANU position and adjust levels manually for optimum performance.

CABLE CONNECTIONS

The output of the Special-Effects Generator may feed either a video monitor for cctv applications or a video tape recorder.

1. Connect the line cord to an ac outlet of 117V, 60 Hz.
2. Connect up to four SONY cameras (all of the same model) to the CAMERA receptacles **15** on the SEG-1 using CCF-Series cables. Input 1 must be supplied with composite video.
3. Connect an equivalent number of monitors to the MONITOR receptacles **16** on the SEG-1 to observe the output of each camera. Do not use connecting cables longer than 10 feet.
4. CCTV Connections: Connect an RGC-Series cable (RG-59/U with PL-259 connectors on each end) from the VIDEO OUT receptacle **17** on the SEG-1 to the video line input of a video monitor. Set the SYNC SELECT switch **14** to INT (see Fig. 3).
5. a. CV-Series Videocorders: Connect a CCF-Series cable from the SYNC IN receptacle **18** on the SEG-1 to the CAMERA receptacle on the Videocorder and set the SYNC SELECT switch **14** to EXT. See Fig. 4.
b. EV- and PV-Series Videocorders: Connect an RGC-Series cable (RG-59U with PL-259 connectors on each end) from the VIDEO OUT receptacle **17** of the SEG-1 to the video input of the Videocorder and set the SYNC SELECT switch **14** to INT. See Figs. 5 & 6.

Fig. 3. Equipment connection for CCTV System.

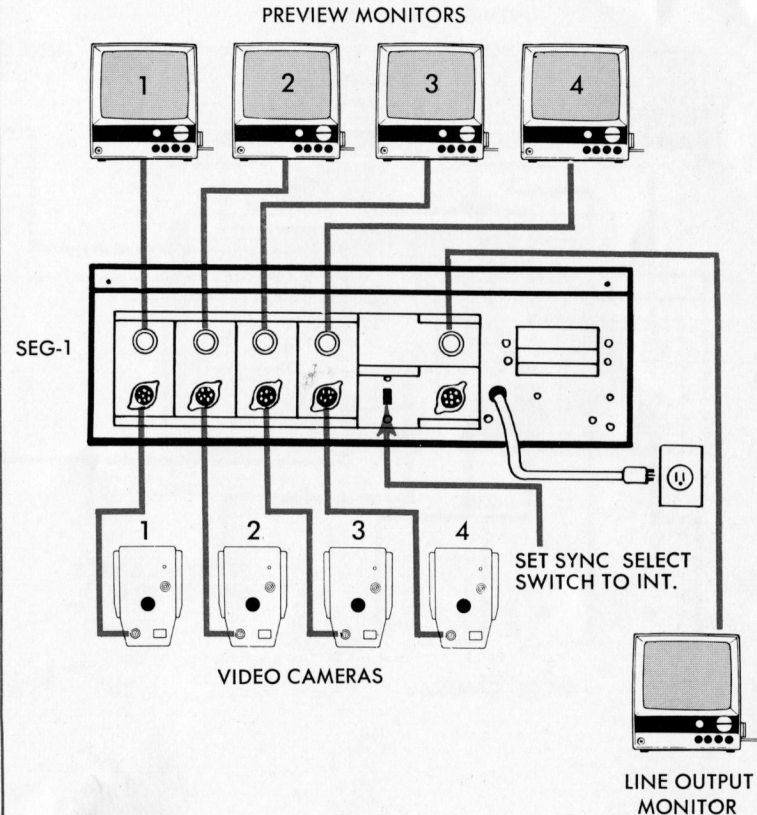


Fig. 4. Equipment connection for recording with CV-SERIES Videocorders.

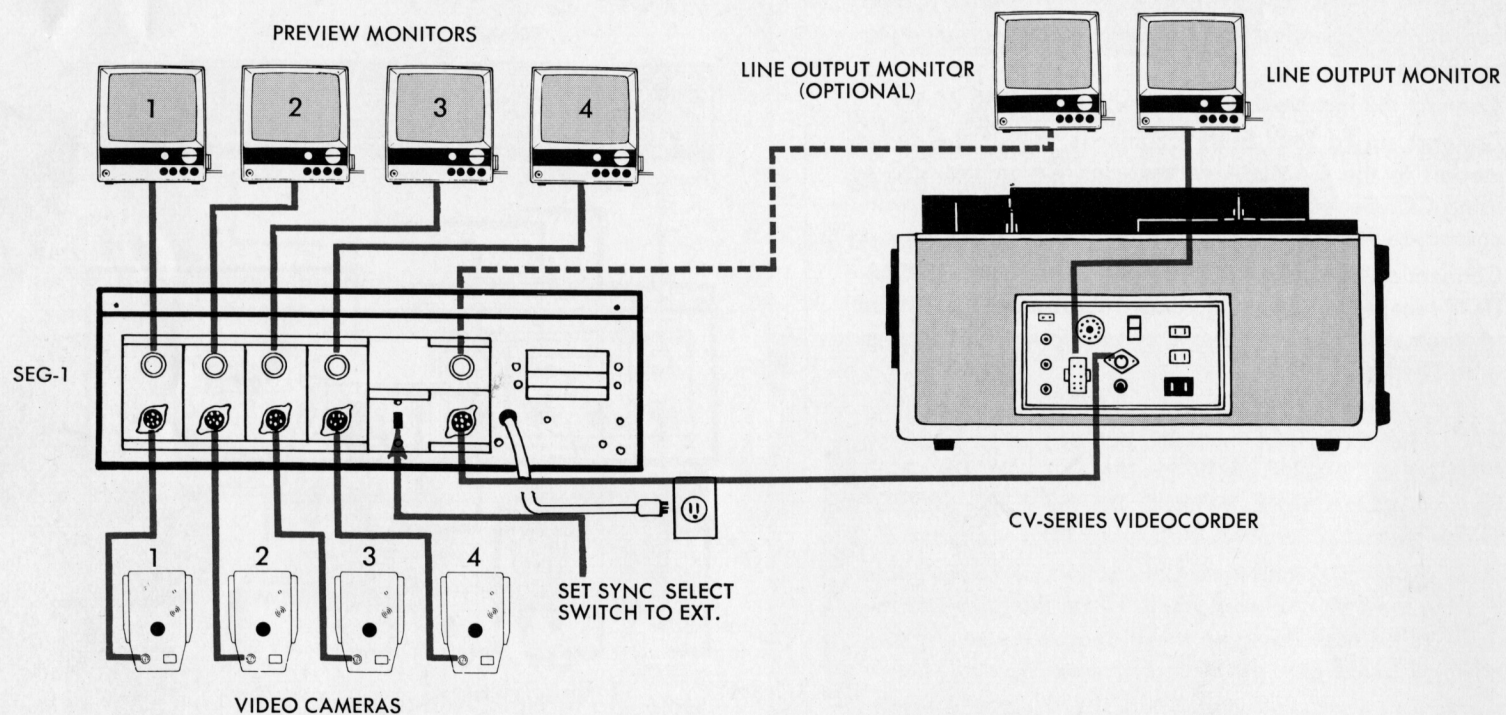


Fig. 5. Equipment connection for recording with EV-SERIES Videocorders.

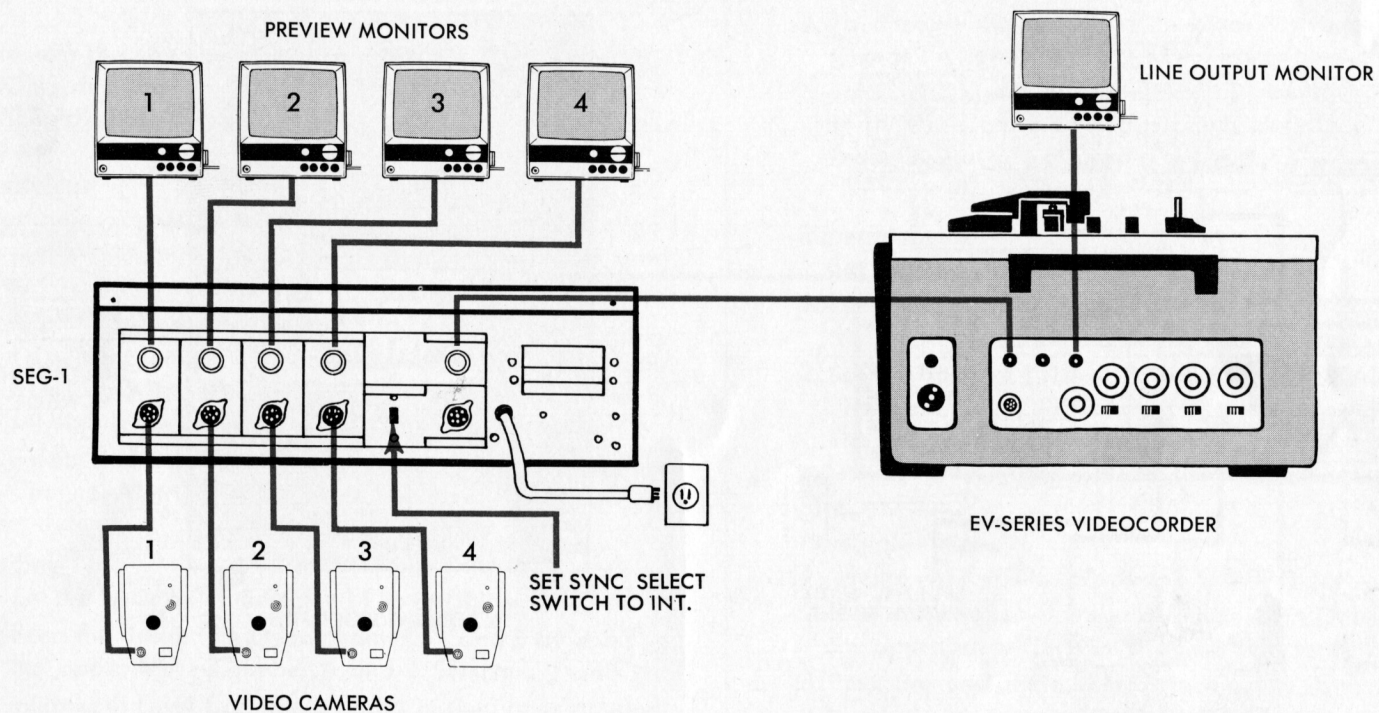
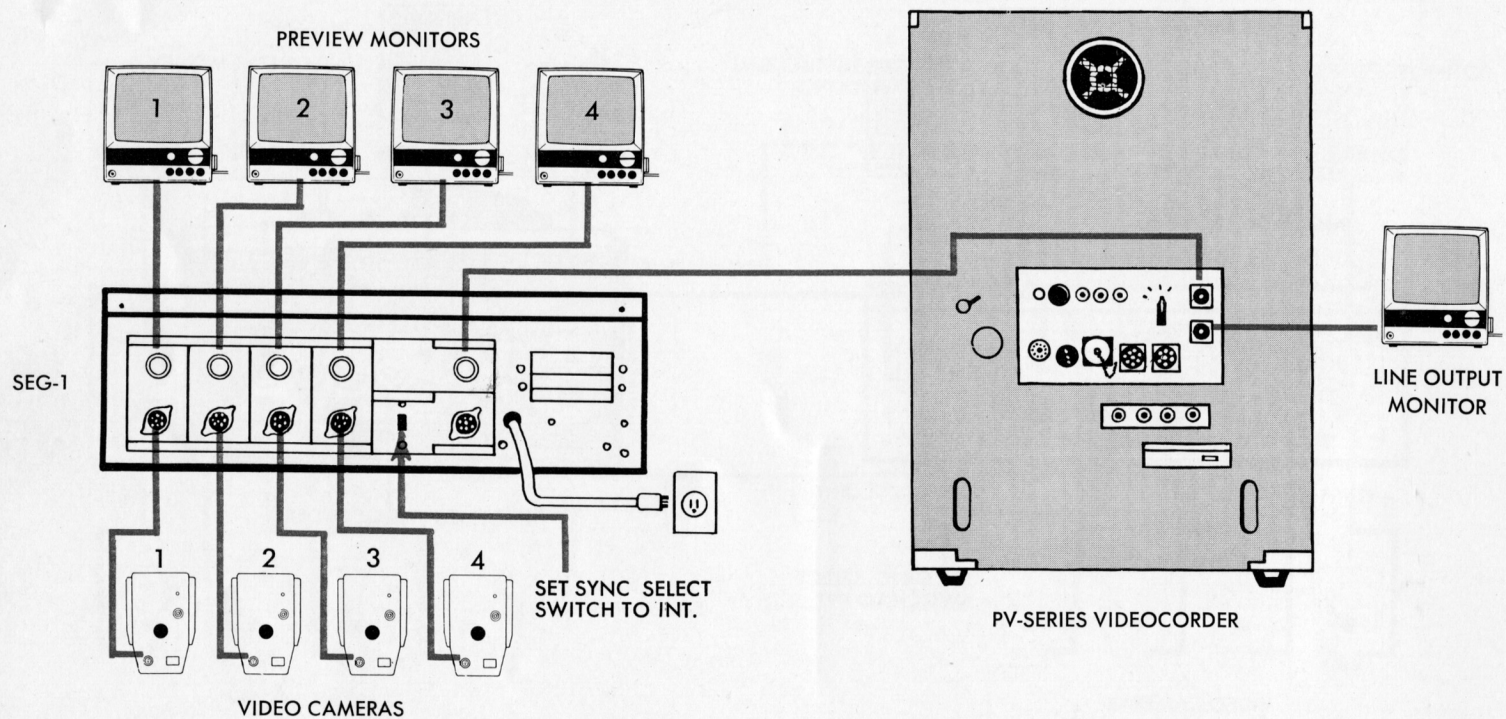


Fig. 6. Equipment connection for recording with PV-SERIES Videocorders.



OPERATION

(Refer to illustrations on Page 3)

Connect the equipment as described in CABLE CONNECTIONS and turn on the power. The red POWER switch 1 will light when the SEG-1 is turned on.

Switching

Switching may be accomplished on either channel. If negative output is required, however, channel B must be used (see paragraph entitled NEGATIVE VIDEO, on page 12).

1. Set the FADE-WIPE Selector 11 to FADE.
2. To switch channel A, set both channel A and B Level Controls 2 and 3 to the upper position. To switch channel B, set both Level Controls 2 and 3 to the lower position.
3. Select the desired input by pressing the appropriate Channel A or B Selectors (9 or 10).

Fading

1. Set the FADE-WIPE Selector 11 to FADE.
2. Feed the desired inputs to channels A and B by pressing the appropriate Channel A and B Selectors 9 and 10.
3. With both Level Controls 2 and 3 in the upper position, the channel A input will be observed on the Line Output monitor. As both Level Controls are advanced simultaneously to the lower position, the picture will gradually

dissolve from the A-channel input to the B-channel input.

4. To dissolve the A-channel to black, advance only the Channel A Level Control 2 to the lower position.
5. To dissolve the B-channel to black, set both Level Controls to the lower position and advance only the Channel B Level Control 3 to the upper position.

Superimposing

1. Set the FADE-WIPE Selector 11 to FADE.
2. Feed the desired inputs to channels A and B by pressing the appropriate Channel A and B Selectors 9 and 10.
3. Set the Channel A Level Control 2 to the upper position and the Channel B Level Control 3 to the lower position. The two superimposed images may be observed on the Line Output monitor.

Horizontal Wipes

1. Set the FADE-WIPE Selector 11 to WIPE.
2. Feed the desired inputs to channels A and B by pressing the appropriate Channel A and B Selectors 9 and 10.
3. Press any one of the Insert Selectors 13.
4. Set the Vertical Wiping Control 8 to the lower position.
5. Vary the Horizontal Wiping Control 7 to position the vertical dividing line between channels A and B.

Vertical Wipes

1. Set the FADE-WIPE Selector **11** to WIPE.
2. Feed the desired inputs to channels A and B by pressing the appropriate Channel A and B Selectors **9** and **10**
3. Press any one of the Insert Selectors **13**.
4. Set the Horizontal Wiping Control **7** to the lower position.
5. Vary the Vertical Wiping Control **8** to position the horizontal dividing line between channels A and B.

Corner Inserts

1. Set the FADE-WIPE Selector **11** to WIPE.
2. Feed the desired inputs to channels A and B by pressing the appropriate Channel A and B Selectors **9** and **10**.

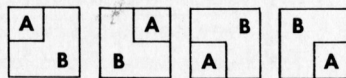


Fig. 7

3. Press the desired Insert Selector **13** according to the figure shown beneath each button. (See Fig. 7)
4. Vary the Horizontal **7** and Vertical **8** Wiping Controls to position the respective vertical and horizontal boundaries of the corner insert.

Negative Video

Negative video is useful in making unusual titles or achieving interesting effects. All fading/wiping features of the

SEG-1 are applicable to the negative video signal, which is available only from channel B.

1. Feed the input to be inverted into channel B by pressing the appropriate Channel B Selector **10**.
2. Set the NEG switch **5** to ON.
3. Vary the contrast of the negative picture by turning the NEG GAIN Control **4**. Clockwise rotation increases contrast.
4. Vary the brightness of the negative picture by turning the NEG LEVEL Control **6**. Clockwise rotation increases brightness.
5. Proceed with any mode of operation (fading, wiping, etc.) as previously described.

Balancing Channels A and B

Differences in output level between channels A and B may be balanced with the LEVEL Control **12**.

1. Adjust SEG-1 controls to obtain a split picture, either vertically or horizontally, on the Line Output monitor.
2. Rotate the LEVEL Control **12** to obtain optimum A- and B-channel balance. Counterclockwise rotation decreases B-channel output. Clockwise rotation decreases A-channel output.

CCTV Applications

The Special-Effects Generator may be used as part of a surveillance system or any other closed circuit television application. When the SYNC SELECT switch **14** is set to INT an internal 2:1 interlace sync generator will synchronize all cameras. An external 2:1 interlace EIA sync generator may be connected, if desired, to the SYNC IN receptacle **18**. In this case, set the SYNC SELECT switch **14** to EXT.

VTR Applications

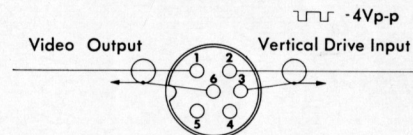
When the SEG-1 is used with a SONY video tape recorder, connect the equipment as previously described (see Figs. 4, 5, or 6) and follow the normal camera recording procedure as described in the Videocorder instruction manual. Note that when recording from a CV-Series* Videocorder the SYNC SELECT switch (**14**) must be set to EXT so that all cameras are synchronized to the recorder. EV- and PV-Series Videocorders may be synchronized by either the internal sync generator (SYNC SELECT switch set to INT) or an external sync generator connected to the SYNC IN receptacle (**18**) (SYNC SELECT switch set to EXT).

Refer to TECHNICAL SPECIFICATIONS for SYNC IN Receptacle pin connections.

**For optimum performance when recording with a CV-2100 or CV-2200 Videocorder, set the AGC-MANU switch on the right side of the cabinet to the MANU position and adjust levels manually.*

Technical Specifications

Camera video inputs:	1.0-1.4 V p-p, sync negative, 75 Ω impedance Input 1 must be supplied with composite video.
Number of camera inputs:	4, Hirschmann 6 Pin receptacle
Monitor video outputs:	1.0-1.4 V p-p, (dependent upon input), sync negative, 75 Ω impedance
Number of monitor outputs:	4, SO-239 UHF receptacle
Number of line outputs:	2, 1—Hirschmann 6 Pin receptacle 1—SO-239 UHF receptacle
Internal sync:	2:1 interlace when SYNC SELECT switch is set to INT.
External sync:	Accepts vertical and horizontal sync from CV-Series Videocorders or vertical sync (-4 V p-p) from an external 2:1 EIA sync generator. See pin connections below.



Power requirements:	117 V, 60 Hz 3-wire parallel ground plug
Power consumption:	7 watts
Dimensions:	5¼" H x 15½" W x 10" D
Weight:	8½ lb.

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47-47 Van Dam Street, Long Island City, N.Y.

Printed in U.S.A.